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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,087	07/24/2001	Christopher D. Ruppel	DP-303443	4010

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EXAMINER	
TRINH, TAN H	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/911,087	RUPPEL ET AL.	
	Examiner	Art Unit	
	TAN TRINH	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 8-14, 17-20 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura (U.S. Patent No. 6,668,172) in view of Holtzman (U.S. Patent No. 6657980).

Regarding claim 1, Yoshimura teaches a method for improving signal processing of a mobile receiver located in a vehicle in the presence of multipath distortion (see figs. 1 and 4, col. 4, line 46-52), the method comprising the steps of: determining a speed of the vehicle (see col. 2, lines 45-53, col. 3, line 53-col. 4, line 67); collecting signal information on a selected received signal that is received by the mobile receiver (see col. 3, line 65-col. 4, line 19), the collected signal information providing an indication of the quality of the received signal (see col. 1, lines 61-65 and col. 4, lines 13-67); and modifying at least one time constant (col. 4, line 49 and line 56 for adjusted time constant) associated with processing of the collected signal information responsive to the determined speed (see col. 4, lines 20-lines 67 and col. 5, lines 1-40 and col. 6, lines 1-55). But Yoshimura fails to teach wherein the collected signal information is provided by a signal quality circuit.

However, Holtzman teaches wherein the collected signal information is provided by a signal quality circuit (see col. 4, lines 1-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Yoshimura and by the teaching of Holtzman on the targeted signal QOS and velocity of each mobile station, in order to provide the robust signal information (See Holtzman col. 2, lines 40-65).

Regarding claims 10 and 23, Yoshimura teaches a mobile receiver that exhibits improved signal processing in the presence of multipath distortion (see figs. 1 and 4, col. 4, line 44-col. 4, line 4 and lines 60-67, col. 5, line 55-col. 6, line 13), the mobile receiver being located within a vehicle (see figs 1 and 4, and see abstract with the traveling speed of the terminal, the cellular phone with speed detector can be located on any moving vehicle, see col. 4, lines 5-10), the mobile receiver comprising: a tuner module (see fig. 4, RF circuit 32, searcher circuit 34 and dispreading circuit 35-39 on reception processing 30 and demodulators, and col. 10, lines 4-20); a signal quality circuit coupled to the tuner module (see fig. 4, Pilot control circuit 52 (signal quality circuit) (col. 6, lines 35-55) of reception processing 50 coupled to tuner module 30 (RF circuit 32)), a memory subsystem for storing information (see fig. 4, the storage deinterleave 43, col. 7, lines 65-66 and col. 8, lines 3-12); Yoshimura inherently teaches and a processor coupled to the memory subsystem and the signal quality circuit (see the processing circuit 35, 37 and 39 and linkage processing 42 coupled with storage deinterleave 43 and since for every mobile phone has processor coupled to the memory), the processor executing code for causing the processor to perform the steps of: determining a speed of the vehicle(see col. 2, lines 45-53, col. 3, line 53-col. 4, line 67); collecting signal information on a selected signal received by the mobile receiver (see col. 3, line 65-col. 4, line 19), wherein the collected signal information is provided by the

signal quality circuit and provides an indication of the quality of the received signal (see col. 1, lines 61-65 and col. 4, lines 13-67), and modifying at least one time constant (col. 4, line 49 and line 56 for adjusted time constant) associated with processing of the collected signal information responsive to the determined speed (see col. 4, lines 20-lines 67 and col. 5, lines 1-40 and col. 6, lines 1-55). But Yoshimura fails to teach wherein the collected signal information is provided by a signal quality circuit.

However, Holtzman teaches wherein the collected signal information is provided by a signal quality circuit (see col. 4, lines 1-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Yoshimura and by the teaching of Holtzman on the targeted signal QOS and velocity of each mobile station, in order to provide the robust signal information (See Holtzman col. 2, lines 40-65).

Regarding claim 19, Yoshimura teaches an automotive subsystem that includes a mobile receiver that exhibits improved signal processing in the presence of multipath distortion (see figs. 1 and 4, col. 4, line 44-col. 4, line 4 and lines 60-67, col. 5, line 55-col. 6, line 13), the mobile receiver being located within a motor vehicle (see figs 1 and 4, and see abstract with the traveling speed of the terminal, the cellular phone with speed detector can be located on any moving vehicle, see col. 4, lines 5-10), the mobile receiver comprising: a tuner module (see fig. 4, RF circuit 32, searcher circuit 34 and dispreading circuit 35-39 on reception processing 30 and demodulators, and col. 10, lines 4-20); a signal quality circuit coupled to the tuner module (see fig. 4, Pilot control circuit 52 (signal quality circuit) (col. 6, lines 35-55) of reception processing

50 coupled to tuner module 30 (RF circuit 32)); a memory subsystem for storing information (see fig. 4, the storage deinterleave 43, col. 7, lines 65-66 and col. 8, lines 3-12), at least one of a vehicle sensor and a ground positioning system (GPS) receiver for providing an indication of the speed of the vehicle (see fig. 1, speed detector and GPS 5, col. 2, lines 45-48), and Yoshimura inherently a processor coupled to the memory subsystem (see the processing circuit 35, 37 and 39 and linkage processing 42 coupled with storage deinterleave 43, since for every mobile phone has processor coupled to the memory), the signal quality circuit and the at least one of a vehicle sensor and a ground positioning system (GPS) receiver (see fig. 1, speed detector and GPS 5, col. 2, lines 45-48), the processor executing code for causing the processor to perform the steps of: determining a speed of the vehicle (see col. 2, lines 45-53, col. 3, line 53-col. 4, line 67), collecting signal information on a selected signal received by the mobile receiver (see col. 3, line 65-col. 4, line 19), wherein the collected signal information is provided by the signal quality circuit and provides an indication of the quality of the received signal (see col. 1, lines 61-65 and col. 4, lines 13-67), and modifying at least one time constant (col. 4, line 49 and line 56 for adjusted time constant) associated with processing of the collected signal information responsive to the determined speed (see col. 4, lines 20-lines 67 and col. 5, lines 1-40 and col. 6, lines 1-55). But Yoshimura fails to teach wherein the collected signal information is provided by a signal quality circuit.

However, Holtzman teaches wherein the collected signal information is provided by a signal quality circuit (see col. 4, lines 1-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Yoshimura and by the teaching of Holtzman on

the targeted signal QOS and velocity of each mobile station, in order to provide the robust signal information (See Holtzman col. 2, lines 40-65).

Regarding claims 2, 11 and 24, Yoshimura teach the speed of the vehicle is provided by a is provided by a vehicle sensor (see fig. 1, speed detector 5 with acceleration sensor, col. 11, lines 1-3).

Regarding claims 3, 12 and 25, Yoshimura teach wherein the speed of the vehicle is determined from position locations provided by a ground positioning system (GPS) receiver (see fig. 1, GPS 5, col. 2, lines 45-48, col. 3, lines 58-64 and col. 10, lines 65-67).

Regarding claims 4, 13, 20 and 26, Yoshimura teach wherein the collected signal information is provided by a signal quality circuit (see col. 4, lines 13-67) and wherein the at least one time constant includes an attack time and a decay time of the signal quality circuit (see fig. 4, col. 4, lines 20-lines 67 and col. 5, lines 1-40).

Regarding claims 5 and 14, Yoshimura teach wherein a length of the at least one time constant is inversely proportional to the speed of the vehicle (see fig. 4, col./ 4, lines 40-67 and col. 5, lines 14-40).

Regarding claims 8 and 17, Yoshimura inherently teach wherein the collected signal information is provided by a signal quality circuit that includes at least one of an average detector, a peak detector and a full-wave detector (see fig. 4, col. 6, lines 14-64).

Regarding claims 9, 18 and 22, Yoshimura inherently teach wherein at least one output of the at least one of an average detector, a peak detector and a full-wave detector is utilized to initiate at least one of a soft-mute, a high-cut and a stereo noise control function (see fig. 4, col. 6, lines 50-64).

3. Claims 6, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura (U.S. Patent No. 6,668,172) in view of Holtzman (U.S. Patent No. 6657980). Further in view of Ugari (U.S, Patent No. 4,416,024).

Regarding claims 6, 15 and 21, Yoshimura or Holtzman fails to teach wherein the collected signal information provides an indication of an ultrasonic noise (USN) level associated with the received signal.

However, Ugari teaches the collected signal information provides an indication of an ultrasonic noise (USN) level associated with the received signal (see fig. 3, col. 11, lines 24-54 and col. 15, lines 24-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Yoshimura and Holtzman system and by the teaching of Ugari on

auditory sense noise and low frequency noise thereto in order to provide user to collected signal information.

4. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura (U.S. Patent No. 6,668,172) in view of Holtzman (U.S. Patent No. 6657980) further in view of Ugari (U.S, Patent No. 4,416,024) further in view of Campbell (U.S. Patent No. 3,813,599).

Regarding claims 7 and 16, Yoshimura teaches wherein the collected signal information also provides an indication of a wideband spread signal level associated with the received signal (see fig. 4, wideband spread signal S11, S12 and S13, col. 4, lines 20-45). But Yoshimura, Holtzman or Ugari fails to show the wideband amplitude modulation (WBAM).

However, Campbell teaches the wideband amplitude modulation (WBAM) (see fig. 4, WBAM 13, col. 6, lines 43-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Yoshimura, Holtzman and Ugari system and by the teaching of Campbell on the wideband amplitude modulation thereto in order to provide user to collected signal information with WBAM detection the measure collected signal.

Response to Arguments

5. Applicant's arguments filed 01-31-2006 have been fully considered but they are not persuasive.

(a) Applicant argues on page 4, the reference of Yoshimura teaches the directed for improving reception when the cellular phone is traveling at a predetermined speed, the fading characteristics changes momentarily (see Yoshimura col. 4, lines 46-48), But how a received signal is processed in receiver? Since Yoshimura teaches the AGC control circuit 54 shortens the time constant in the IIR filter of the AGC circuit 33, there by making the IIR filter operate at a high speed so that the amplitude level of the pilot symbol P reaches a predetermine value in a short time. The AGC control circuit 54 in the receiver controls the follow up speed until the amplitude level of the pilot symbol P reaches a predetermined value according to the terminal traveling information S41 supplied from the speed detector apparatus 5 (see Yoshimura col. 4, lines 46-67). Therefore, that is the received signal process in the receiver teaches by Yoshimura.

(b) Applicant argues on page 4, the reference Yoshimura does not mention or suggest the need for a transmitter to alter the characteristics of the transmitter signal. However, that is not cited in the claim.

(c) Applicant argues on page 4, the reference of Holtzman fails to teach 'wherein the collected signal information is provide by a signal quality circuit". However, the examiner does not agree, Since the reference of Holtzman teaches the collected signal information is provide by a signal quality circuit (see Holtzman col. 4, lines 1-33 and col. 5, lines 2-55). In this case the low pass filter of the signal quality circuit with filter parameter β for digital sample having index n, the time constant may be related to the targeted QOS and /or velocity of the mobile station 16, and determines a quality of the transmission channel and determines a corresponding data rate to request. The quality of the transmission channel may be a C/I measure of the transmission received by the user (see Holtzman col. 4, lines 1-26) , also the calculation unit 50 includes a

smoothing filter, such as an infinite Impulse Response (IIR) filter for a mobile station 16 has a velocity of 3 Km / hr and experiences a Doppler frequency F (doppler) of 5.4 Hz. Projected throughput a subject to IIR smoothing filter. The IIR filter tap coefficient, β, is related to time constant T(w) by relation given as equation (4)). In general calculation of β involves first determining a quality of service for the transmission reflecting a fairness constant wherein mobile station 16 is allocated a time fraction within predetermined tolerance. However, Holtzman does teach the signal quality circuit, wherein the circuit for determining a quality of service (see Holtzman col. 5, lines 32-53). Therefore, the reference of Holtzman teaches the limitation of the claims.

(d) Applicant argues the combination of Yoshimura and Holtzman do not appear to be motivation to combine. However, the examiner does not agree. Since the reference Yoshimura teaches the a method for improving signal processing of a mobile receiver located in a vehicle in the presence of multipath distortion (see figs. 1 and 4, col. 4, line 46-52), the method comprising the steps of: determining a speed of the vehicle (see col. 2, lines 45-53, col. 3, line 53-col. 4, line 67); collecting signal information on a selected received signal that is received by the mobile receiver (see col. 3, line 65-col. 4, line 19), the collected signal information providing an indication of the quality of the received signal (see col. 1, lines 61-65 and col. 4, lines 13-67) and Holtzman teaches wherein the collected signal information is provided by a signal quality circuit (see col. 4, lines 1-33) and so see the argument above, so the combination of Yoshimura and Holtzman is proper, so that the user can determine the quality of the transmission channel with the C/I measurement and errors in transmitted data received by the user (See Holtzman col. 4, lines 18-27).

(e) In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the suggestion to combine is teaching on the second reference, since the quality of service is requirements the that provide robust signal information (see Holtzman col. 2, lines 40-65).

(f) Regarding claim 10, 19 and 23. Applicant argues that the reference of Yoshimura does not teach the signal quality circuit on the pilot control circuit 52. However, the examiner does not agree. Since the reference of Yoshimura teach the reception processing control section 50 (see fig. 4 within dot line) the reception processing 50 includes: Pilot control circuit 52, AFC control circuit 51, finger assignment control circuit 53, AGC control circuit 54 and matched filter control circuit 55. In this case the speed detector apparatus 5 decides which of the following state the cellular phone 3 is in stationary, low speed traveling, medium-speed or high speed traveling, and supplies terminal traveling information S41 which is traveling speed information showing this decision result to a reception processing control section 50 of the cellular phone 3. when the cellular phone 3 traveling at a predetermined speed, the fading characteristic changes momentarily, therefore the AGC control circuit 54 shortens the time constant in the IIR filter of the AGC circuit 33, or when cellular phone 3 is stationary, the fading characteristic remains stable without changing momentarily, and AGC control circuit 54 extends the time constants in

the IIR filter of the AGC circuit 33, thereby making the IIR filter operate at a low speed so that the follow-up speed until the amplitude level of the pilot symbol P reaches a predetermined value is slow, and the predetermined value according to the terminal traveling information S41 supplied from the speed detector apparatus 5, making it possible to always adjust the amplitude level of the pilot symbol P to an optimal value in consideration of influences of fading that varies depending on the traveling speed, also the pilot control circuit 52, according to the terminal traveling information S41 supplied from the speed detector apparatus 5, adjusts, for example the time constants of the pilot reception filter make up of IIR filter provide inside the demodulation circuit 36, 38, 40, and can thereby control the number of the pilot symbol Pused to detect phase shifts or amplitude shifts via the pilot reception filters. That is, when the cellular phone 3 is traveling at a determined speed, the fading characteristic changes momentarily, and therefore the pilot control circuit 52 shortens the time constants of the pilot reception filter in the demodulation circuit (see Yoshimura col. 3, lines 58-col. 4 lines 67 and col. 5, lines 14-col. 6, lines 67). Therefore, the reference of Yoshimura does teach the signal quality circuit includes the pilot control circuit 52.

(g) Applicant argues on page 6, the reference of Ugari does not mention an Ultrasonic noise (USN). In this case the reference of Ugari teaches when the multi-path distortion appearing as noise is significantly greater when in the stereo receiver mode, the multi-path distortion is further suppressed by forcedly altering operation mode from stereo receiver mode (see col. 15, lines 23-30). However, since in the applicant specification on page 1, section [0002]) that is define the multi-path distortion appearing as noise is ultrasonic noise (USN)

level, which provide an indication of a multi-path distortion level. Therefore, the reference of Ugari is teaching the limitation of the claim.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300, (for Technology Center 2600 only)

*Hand-delivered responses should be brought to the Customer Service Window (now located at the **Randolph Building, 401 Dulany Street, Alexandria, VA 22314).***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Trinh whose telephone number is (571) 272-7888. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Anderson, Matthew D., can be reached at (571) 272-4177.

The fax phone number for the organization where this application or proceeding is assigned is **(571) 273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tan H. Trinh
Division 2618
April 12, 2006

Anderson, Matthew D. (SPE 2618)